


# **NASA Enterprise Applications Competency Center (NEACC)**

## **Service Restoration Team (SRT) Procedure Operational Work Instruction (OWI)**

REVISION G

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## 1.0 INTRODUCTION

A key to the success of National Aeronautics and Space Administration (NASA) Enterprise Applications Competency Center (NEACC) is the ability to provide high quality service. When outages occur, customer satisfaction is directly impacted. The complexity of diagnosing problems in a multi-vendor environment in a timely manner is essential. Bringing together key technical and functional groups to begin the problem resolution process is the first step toward resolution and adjustments to process and/or systems to ensure continuous improvement in the NEACC infrastructure. The Service Restoration Team (SRT) process is described in this document, to the extent it is used by the Service Level Management (SLM) Team when a Severity 1 or Severity 2 incident is not resolved in a predetermined time frame as defined by the NEACC Incident Resolution process (see IS01-NEACC-SEO-PROC-OPS-002, Incident Escalation Procedure), which establishes a communication vehicle to provide status to NEACC and NASA management.

### 1.1 Purpose

This Operational Work Instruction (OWI) is to describe the SRT process that the NEACC SLM Team uses to coordinate restoration activities surrounding Severity 1 incident being resolved by the technical/functional staffs. Additionally, the SRT process leverages resources from outside NEACC to assist in the restoration activity (e.g., NASA Information Support Center (NISC) and/or other personnel). When established, the SRT immediately coordinates efforts and resources to manage restoration of the service. This document describes the roles of the personnel involved in the process and the activities that are part of the NEACC SRT process. The purpose of this document is to document and communicate the procedure for a SRT.

The objective of the SRT process is to rapidly escalate, resolve, coordinate restoration, and document outages, with the least amount of downtime for NEACC users.

### 1.2 Applicability

This procedure applies to NEACC and shall be used by all organizations coordinating with NEACC regarding service restoration.

### 1.3 Applicable Documents

- IS01-CC-SEO-PROC-OPS-002, Incident Escalation Procedure
- IS01-NEACC-CC-PROC-OPS-003 NEACC Daily Service Review (DSR) Procedure
- IS01-NEACC-CC-PROC-OPS-004 NEACC Root Cause Analysis (RCA) Procedure

### 1.4 References

None

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## 1.5 Definitions

**Table 1 – Definitions**

Term	Definition
Daily Service Review (DSR)	A meeting conducted daily to review production performance issues (service exceptions and changes).
Disaster Recovery Team	Selected personnel and vendor SMEs designated to assemble if an Information Technology (IT) disaster or natural disaster is declared. The team shall assess the disaster and re-establish IT as rapidly as possible while working with external and internal organizations.
Service Provider	An organization responsible for providing a service to the client.
NASA Information Support Center (NISC)	The first line of support and the single point of contact for customers. The NISC shall be responsible for end-to-end problem management belonging to the NISC. During an SRT process, the SLM Team shall maintain all SRT-related documentation.
Restoration Plan	The approved plan used by the SRT to restore service to the client in response to a Severity 1 or Severity 2 incident.
Root Cause Analysis (RCA)	Analysis of a specific problem or problem trend that seeks to make the distinction between the symptom and the actual cause of a problem.
Severity 1 or Severity 2 Incident	The complete loss of a critical business function. Problems that are affecting an organization and the system are unusable and no alternative is available.
SRT Situation Room	A location at the appropriate NASA site where the necessary resources are located to facilitate the SRT activity.
SRT Status Report	The report prepared upon the commencement of a SRT which shall be updated on an hourly basis. The report is prepared by the SRT Team Lead and maintained by the Scribe. The information shall be used to provide status to personnel inquiring into the SRT and for NISC use to update the problem ticket.
Subject Matter Experts (SMEs)	Individuals called upon to share their specialized knowledge and participate on SRTs.

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## 1.6 Acronyms and Abbreviations

**Table 2 – Acronyms and Abbreviations**

Acronym	Description
CIO	Chief Information Officer
CR	Change Request
DSR	Daily Service Review
FMS	Factory Management Support
ISRS	NEACC Integrated Service Request System
IT	Information Technology
LOB	Line of Business
MISM	MSFC Integrated Service Management
NASA	National Aeronautics and Space Administration
NEACC	NASA Enterprise Applications Competency Center
OWI	Operational Work Instruction
RCA	Root Cause Analysis
SLA	Service Level Agreement
SLM	Service Level Management
SME	Subject Matter Expert
SRT	Service Restoration Team

## 2.0 ROLES AND RESPONSIBILITIES

The following table provides an overview definition of the roles and responsibilities of the various functions cited in this procedure:

**Table 3 – Roles and Responsibilities**

Roles	Responsibilities
Escalation Manager	<p>The Escalation Manager shall:</p> <ul style="list-style-type: none"> <li>Escalate and communicate any issues to the SRT process according to the IS01-NEACC-SEO-PROC-OP-002 Incident Escalation Procedure and the IS01-NEACC-PROC-OPS-003 Daily Service Review.</li> <li>Initiate and chair all SRTs.</li> </ul>

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Roles	Responsibilities
	<ul style="list-style-type: none"> <li>Ensure adequate representation of NEACC support personnel to address and resolve the incident.</li> </ul>
Help Desk Representative	<p>The Help Desk Representative shall:</p> <ul style="list-style-type: none"> <li>Represent the NASA Information Support Center (NISC) Help Desk in the SRT process.</li> </ul>
Service Restoration Team (SRT) Members	<p>The SRT Members shall:</p> <ul style="list-style-type: none"> <li>Provide NEACC support and knowledge for service restoration and could include Program Management Team, Service Providers, Subject Matter Experts (SMEs), SLM, and Vendor personnel.</li> <li>Provide information to complete the RCA report.</li> </ul>
Vendor Representatives	<p>Vendor representatives shall:</p> <ul style="list-style-type: none"> <li>Share their specialized knowledge and participate on the SRT.</li> </ul>
Line of Business (LOB) Manager	<p>The LOB Manager shall:</p> <ul style="list-style-type: none"> <li>Review and approve RCA recommendations and corrective actions to be implemented that impact their specific LOB.</li> </ul>
Service Level Management (SLM) Team	<p>The SLM Team shall:</p> <ul style="list-style-type: none"> <li>Assist and support the escalation manager with the SRT process.</li> <li>Initiate and facilitate the SRT meeting Document the SRT actions and results.</li> </ul>
NASA Business Area/Application Lead	<p>The NASA Business Owner / Application Lead shall:</p> <ul style="list-style-type: none"> <li>Participate in the SRT process.</li> </ul>
NEACC Technical (and/or Functional) Personnel	<p>The NEACC Technical Personnel shall:</p> <ul style="list-style-type: none"> <li>Represent program interests as members of the SRT activity.</li> <li>Be involved in the discovery process, responsible for implementation of the SRT process.</li> </ul>

### 3.0 REQUIREMENTS

A NEACC Severity 1 or Severity 2 outage that exceeds the pre-defined threshold for outages set forth in the Service Level Agreement (SLA) shall use the SRT process. The SRT and this procedure are managed at the NEACC, owned by the NEACC Factory Management Support (FMS), and shall be reviewed for changes annually.

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The Escalation Manager shall review several factors, such as the number of users affected and the critical nature of the service lost for a Severity 1 or Severity 2 incident to determine if a team is required and the initial makeup of the team.

The process begins with identifying the outage that meets the requirements of an SRT, and ends with the resolution (restoration of service) and documentation of the outage. The SRT process always feeds back into the problem management (RCA) process for problem record closure and process audits. The procedure is implemented when the following thresholds are exceeded. Severity 1 or Severity 2 duration threshold shall be managed according to NEACC internal procedures.

### 3.1 Severity 1 Duration Threshold

Any Severity 1 incident with a duration greater than 30 minutes is a candidate for SRT initiation. Any Severity 2 incident with a duration greater than 1 hour is a candidate for SRT initiation.

### 3.2 Escalation and Notification

The document IS01-CC-SEO-PROC-OPS-002, Incident Escalation Procedure explains escalation and resolution process in detail. The SLM Team maintains a current copy of the process and NEACC support contact information on the NEACC Business Readiness (BR) Portal bReady.nasa.gov. Additionally the SLM team provides NISC Helpdesk analyst with a current copy of support contact numbers.

## 4.0 PROCEDURE

This section describes the activities to be performed during the SRT process.

### 4.1 Review Problem

All incidents are reported and documented in the NEACC Integrated Service Request System (ISRS) Remedy tool. An SRT is initiated following an assessment of an incident's scope in the Incident Management process. The Escalation Manager is contacted by NISC support analyst when a Severity 1 or Severity 2 incident is reported or when an incident is identified that exceeds established thresholds, or management direction is received. For each received incident notification, the Escalation Manager reviews the incident to determine if an SRT is required.

The scope of the incident record shall include the following:

- Problem symptoms
- Magnitude of the problem
- Framework(s) impacted
- Problem start time



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The Escalation Manager shall use the available data to determine which SMEs need to participate in the SRT and the Escalation Manager working with SLM Team support shall ensure that they are notified.

## 4.2 Notify Functional Areas

The Escalation Manager shall be responsible for all communication regarding the SRT process and establishing and conducting the SRT activity. The SRT meetings are conducted in a consistent location (see Appendix A).

The SRT Lead shall:

- Identify all participants, including the following:
  - Service Provider Representatives
  - SLM Facilitator & Scribe
  - SME (Subject Matter Experts)
  - Vendor Representatives
- Notify the Disaster Recovery Representative, if the scope exceeds the threshold of or be declared a disaster.
- If declared a disaster, then the Disaster Recovery Team shall commence an effort to recover from the disaster in parallel with the on-going SRT:
  - Secure a location for the SRT room
  - Implement Problem Management System database access
  - Ensure e-mail access
  - Implement use of a white board or flip chart easel
- Gather and maintain the required conference bridge numbers, Points of Contact, and any other logistical information necessary to conduct the SRT.
- Provide input to the NEACC DSR meeting and RCA if required (see IS01-NEACC-CC-PROC-OPS-004 NEACC Root Cause Analysis (RCA) Procedure).

## 4.3 Perform Management Escalation & Notification

Once the SRT process commences, the Escalation Manager and SLM shall ensure escalation has occurred across any functional groups that could assist in restoration activities; this ensures the provision of adequate technical resources. Additionally, the SLM Team shall follow any escalation procedures within a Service Provider where a specific escalation criterion exists. The SLM Team shall be responsible for all end-user notification.

## 4.4 Document the Outage

SLM shall update any new information within the incident record, along with SRT process specific data. If the incident management process does not report the incident, no incident record will exist. In this case, an incident record shall contain the symptoms, framework impacted, start time, and an estimation of scope.

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The incident record (the Service Request (SR) diary, is the central repository of all the data related to an incident. In addition to being used for RCA activity, the SRT information in the incident record shall be used to measure the effectiveness of the specific SRT and to audit the SRT process.

## 4.5 Establish Communications

The SLM Team uses a conference bridge to maintain communication between all participants throughout the life of the SRT. Conference bridges provide the necessary flexibility required for adding input, making recommendations, and providing or obtaining status, without necessarily being present. This communication shall be established within 15 minutes of a SRT being initiated and shall remain open until the service restoration process is complete. The SLM Team has established a dedicated conference bridge for all NEACC SRTs and has other numbers if multiple SRTs are conducted at the same time.

## 4.6 Review Status

The appropriate participants of the SRT shall review the status of the incident to ensure a common understanding and to improve the flow of information. Service Providers, contract personnel and or NASA Management are called from the Situation Room and the Conference Bridge shall be used to provide continuous updates on problem symptoms and the status of recovery attempts.

The answers to the following questions shall be confirmed to help establish scope and resolution options:

- What is the incident?
- What is the scope of the incident? Are there multiple applications or services or sites involved?
- What recovery steps have been attempted? Is there an immediate fix?
- Is there a work around/bypass available for immediate restoration of services?
- What management approval is required before proceeding?
- Is the SRT team complete? Does the SRT team require additional resources?
- What is the estimated resolution time?

Each participant shall be responsible for providing status to SLM and staying abreast of any changes or progress to the incident. Team participants shall be dedicated to the effort until service is restored, thus allowing the members to focus on technical issues and work action plans with other team members. Regular communication with the team lead shall be maintained to focus and minimize deviations.

## 4.7 Confirm Scope

The confirmation of scope shall not only used to define the extent of the incident, but also, in the case of a large outage, to break resolution activities into manageable, logical pieces. It is possible the team could increase or decrease in size as a result of scope confirmation. Resource requirements shall be monitored throughout the SRT process by the SRT Lead. However, once

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assigned an SRT, the restoration of service shall be the focus and responsibility of each member. If the scope exceed the threshold, or is declared a disaster, the Disaster Recovery Team shall commence an effort to recover in parallel with the on-going service restoration efforts.

#### **4.8 Develop Restoration Plan**

The Service Restoration Team and the developed Restoration Plan shall primarily be concerned with reestablishing service, placing the focus of the plan on speed of restoration, not the permanence of a solution. In some instances, incident service restoration could be the same as a final resolution, but the initial goal in a SRT process shall be service restoration.

Secondary Restoration Plans shall be developed as a contingency in the event that service is not restored by the first attempt.

#### **4.9 Execute Restoration Plan**

Depending upon client requirements and service interruption criteria, the Restoration Plan shall be executed. This plan includes assigned tasks to specific individuals, generally Service Providers and vendors. During the execution of the Restoration Plan, each team member shall continue to report current status and the completion of interim activities to ensure that the team has the updated information and status.

If incident severity warrants, the SLM Team shall prepare and enter a NASA Task Request in the MSFC Integrated Service Management (MISM) tool. This Emergency Change Request (CR)'s approval cycle will accelerate. It is not uncommon for the SR to be entered after service has been restored. However, the importance of entering the SR into the system shall not be diminished, as this maintains the integrity of the data used for metrics and reporting. The SLM Team shall also document emergency task requests to the fullest in the SRT incident record, and shall provide the record to the follow-on RCA action.

#### **4.10 Confirm Service Availability**

Upon completion of the Restoration Plan, the Escalation Manager shall communicate with the SRT Team members to determine if all services have been restored. When all services have been restored, the focus of the team will shift to finalizing SRT documentation for the RCA activity. If any services are not restored, the team shall review the status and scope of the remaining issues and shall determine the best option for the next restoration attempt.

#### **4.11 Communicate Restoration Status**

Because the entire SRT is involved in the verification of service restoration, the bulk of notification and escalation for restoration status takes place during the "Confirm Service Availability" step within the "Restore Service" phase. However, there may be individuals who were not part of the SRT, but had been notified through previous escalation steps; the restoration status shall be communicated to those identified individuals at this time.

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All the details of individuals contacted and when contacted shall be documented and added to the incident record. These details are helpful in the audit and performance of an analysis of the SRT process.

#### **4.12 Initiate Root Cause Analysis**

The Line of Business Manager shall initiate an RCA for every Severity 1 SRT, as defined in IS01-NEACC-CC-PROC-OPS-004 Root Cause Analysis Procedure. All documentation created during the SRT, including copies of SRs shall be passed to the RCA Team for use in determining the root cause of the service outage or Severity 1 incident. The bulk of incident symptom and chronology documentation will have been completed during the SRT any additional data gathered during a RCA, or any additional findings, shall be added documented in the problem (RCA) record. At the request of NASA Management or LOB Manager, a RCA could be requested for a severity 2, 3, or 4 Service Request (SR).

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## 5.0 RECORDS

Each SRT is currently maintained in the ticket, service request incident record that initiated the SRT. Use the NEACC Service Request System (ISRS) Remedy form to search for the particular ticket in question. Historical SRTs (prior to 01/01/2008) may be found in the Lotus Notes Service Delivery Database.

**Table 4 – Records Applicable To This Document**

Name of Record	Storage Location	SBU/PAI	Retention Schedule	Responsible Party	Email	Phone No.
Restoration Plan		No	2/27/C/2/(a) (2800)	SLM Team		
SRT Status Report		No	2/27/C/2/(a) (2800)	SLM Team		
Daily Service Reviews		No	2/27/C/2/(a) (2800)	SLM Team		
Problem Record		No	2/27/C/2/(a) (2800)	SLM Team		

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## APPENDIX A: NEACC SRT LOGISTIC INFORMATION FOR SITUATION ROOM

The following is the basic logistic information required for conducting a SRT in support of the NEACC contract.

**Table 5 – SRT Logistical Information**

Site Location	Room Location	Conference Bridge Telephone Number with Host/Participant Codes	Speaker Telephone Number

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## APPENDIX B: SERVICE RESTORATION PROCESS FLOW

The Service Restoration Process Flow is detailed in the following figure:

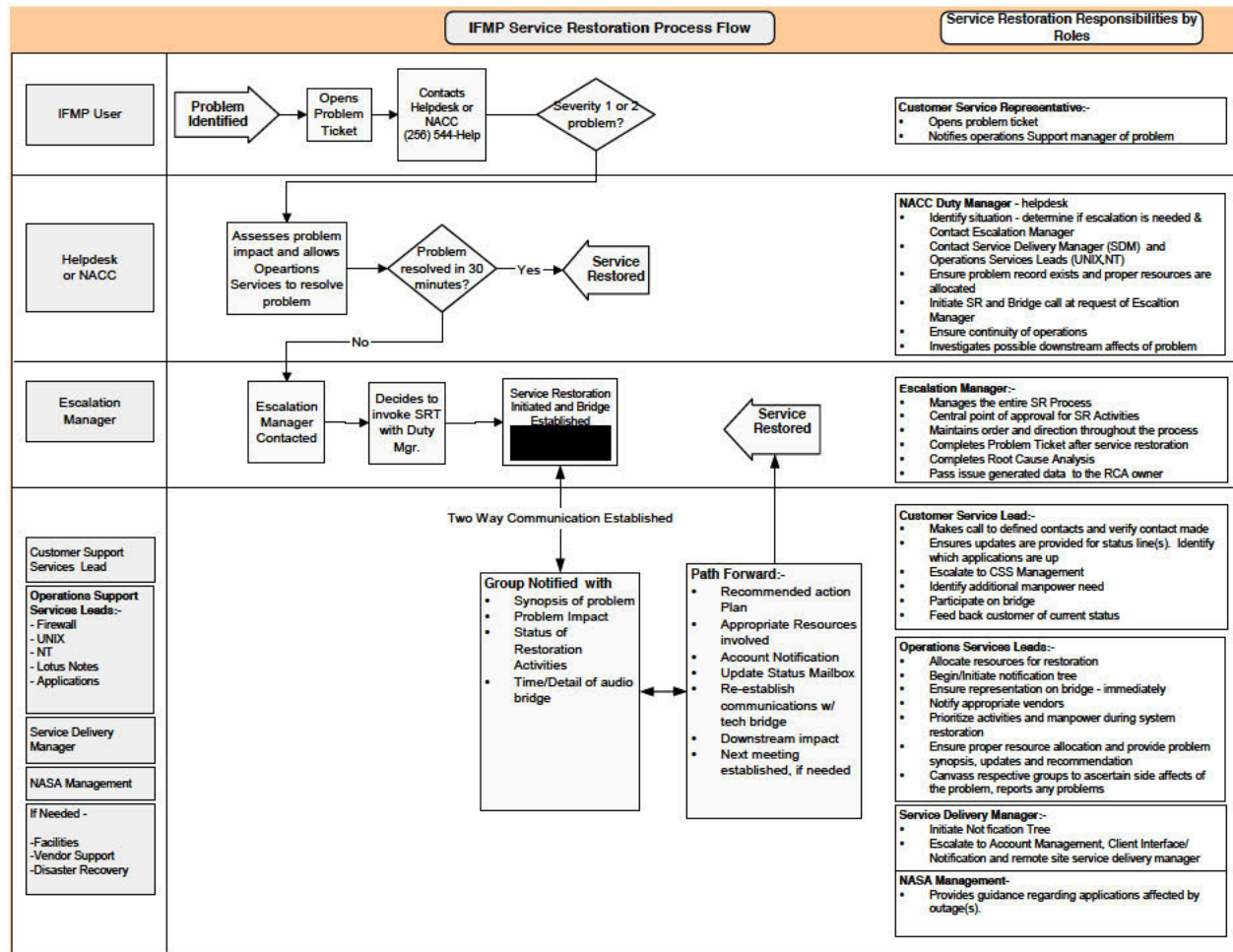


Figure 1 – SRT Process Flow

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## APPENDIX C: POINTS OF CONTACT

Table 6 – Points of Contact

Name	Position	Email	Phone Number

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